

56-6-12/47

On the Polarization of a Molecular Beam by an Alternating Field With Changing Amplitude and Phase

- the acting field change slowly.
- 4.) Discussion of the case in which the amplitude and frequency of the acting field change rapidly.

For the case that the acting field with changing amplitude corresponds to the frequency of a molecular transition, an exact solution of equations was derived for polarization. For the case that the amplitude and frequency of the field change slowly or rapidly, an approximate solution is given for the polarization equation. There are 4 Slavic references.

ASSOCIATION: Moscow State University
(Moskovskiy gosudarstvennyy universitet)

SUBMITTED: May 20, 1957

AVAILABLE: Library of Congress

Card 2/2

Lyubimov

1955-1-12/15

AUTHORS: Gvozdozer, S.D., Kostiyenko, A.I., Lyubimov, B.I.

TITLE: Experimental Study of the Mutual-Synchronous Operation of the Reflex Klystrons of the 3-cm Waveband (Eksperimental'noye izucheniye vzaimno-sinkhronnoy raboty otrazhatel'nykh klystronov trekhsmetrovogo diapazona)

PERIODICAL: Radiotekhnika i Elektronika, 1955, Vol. III, No. 1, pp. 105-111 (USSR)

ABSTRACT: Mutual synchronization of the reflex klystrons is explained with reference to Fig.1, which represents the output power P and the frequency f of two klystrons as a function of the voltage applied to the reflector. One of the klystrons operates at a frequency somewhat lower than the other, but the difference is such that when the output power of one of the klystrons decreases, that of the other increases. Consequently, it is possible to obtain an almost constant output power over the whole range of variation of the two "steady state" klystron frequencies. It is shown that the resulting output frequency is stable with respect to variation of the reflector voltage. The experimental results are investigated experimentally by means of the equivalent circuit block schematic of Fig.2. The circuit consists of:

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100-1-10/11

Experimental Study of the Mutual-Dynamics in Operation of 3-Klystron
Klystrons of the 3-cm Waveband

(1) klystron outputs, (2) attenuators, (3) waveguide
junctions, (4) a T-junction, (5) an impedance transformer,
(6) a waveguide-cable transformer, (7) a detector, (8)
(9) a load, (10) 3 klystrons, (11) a wavemeter, (12) a spec-
trum analyzer, (13) an amplifier, (14) an oscillator,
(15) a sawtooth voltage generator, (16) a switch, and
(17) klystron power supply. The experimental output power
and frequency curves as a function of the reflector voltage
are shown in Figs. 1a and 3b. It was found that the kly-
strons can be operated under several different modes; some
of these are characterized by the absence of mutual syn-
chronization while others may lead to the appearance of
beats. It was found, for example, that the same modes
could be obtained if the reflector voltage was varied
by ± 5 V. Some experimental work was carried out on 3
and 5 klystrons operating with a common load. The power
and frequency response of the 3-klystron system are shown
in Fig. 7 while the power and frequency response of the 5-klystron system

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1 -1- 1/1
Experimental Study of the High-Frequency Oscillations of the
Klystrons of the J-30 W Wave

As illustrated in Fig. 1. From the above it follows that the J-30 klystrons are characterized by high efficiency, wide band and systems employing J-30 klystrons are reliable. These data are of great interest for the Russian military.

ASSOCIATION: Physics Faculty of the Moscow State University
N. V. Lobachev (Physics Faculty, Moscow State University)
Firstvennogo Universiteta N. V. Lobacheva

SUBMITTED: Dec. 12, 1955

AVAILABLE: Library of Congress

Card 3/3

Lyapunov 71

1. -1-15/11

AUTHORS: Kostiyenko, A.I., Ivanov, V.I.

TITLE: The Influence of the Load on the Characteristics of the
of a Reflector Klystron (Vliyeniye na kharakteristiki
sinnovonaya radioluchnaya elektronika) [sic]

PERIODICAL: Radiotekhnika i Elektronika, 1971, Vol.16, No.1,
111-115 (1971)

ABSTRACT: The effect was investigated on the characteristics of the
the equipment shown in Fig.1, 1.112. The equipment consists of:
(1) two ill/sync heads, (2) attenuators, (3) a T-
junction, (4) an impedance transformer, (5) an antenna
section (to the wave ter), (6) an output section to a
spectrum analyzer, (7) a power indicator and (8) a dummy
antenna. Two types of measure were carried out. In
the first case the input impedance of the load was independ-
ly dependent on frequency; the impedance curve is shown in
Fig.2B. The output power curve and the output frequency
curve is a function of the reflector voltage and shown in
Figs.3a and 3b respectively. When the load was frequency
dependent (as is shown in Fig.33) the output power
and the frequency curves as a function of the reflector
voltage were in the form shown in Figs.3A and 3B respec-
tively. From the above it is seen that the power output

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1 - 1 - 1

The Influence of a Load on the Mutual-Synchronous Operation of Reflex Klystrons

the effective synchronous tuning bandwidth of reflex klystrons is dependent on the load impedance; if the impedance-frequency characteristic of the load is constant, the output frequency is almost a linear function of the reflector voltage and the output power is constant over an appreciable band of frequencies. The authors express their gratitude to M. A. Drevlova and A. A. Lebed' for their help in this work. There are 3 figures, 1 table, and 1 Russian and 1 English reference.

ASSOCIATION: Chair of Radio Engineering of the Physics Faculty of the Moscow State University im. M. V. Lomonosov (Katedra radiotekhniki fizicheskogo fakul'teta moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova)

SUBMITTED: January 25, 1959

AVAILABLE: Library of Congress

Card 2/2

9.2582 (3002,2105)

21211
S/186/61/000/001/009/009
B104/B203

AUTHORS: Lyubimov, G. P., Strakhovskiy, G. M., Cheremiskin, I. V.

TITLE: Simple method of tuning a molecular generator

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 3, fizika, astronomiya, no. 1, 1961, 79-81

TEXT: At the Moskovskiy gosudarstvennyy universitet (Moscow State University), a molecular generator was produced and put into operation in 1958, which operates with the lines $I = 3$ and $K = 3$ of $N^{14}H_3$ and corresponds to a type developed at the FIAN by N. G. Basov and A. M. Prokhorov (Ref. 1: Basov, N. G., Prokhorov, A. M., ZhETF, 27, 431, 1954; Ref. 2: Basov, N. G., Prokhorov, A. M., DAN, 101, 47, 1955; Ref. 3: Basov, H. G., "Radiotekhnika i elektronika", 1, 752, 1956). The molecular beam was formed in this molecular generator with a Cu-foil grid having square holes with a lateral length of 0.05 mm and a duty factor of 0.25. The authors studied a replacement of the grid by a single channel 10 mm long with various diameters. Optimum results were obtained with a channel 1.5 mm in diameter: as compared with the grid type, the signal-to-

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Simple method of tuning a....

S/188/61/000/001/009/009
B104/B203

noise ratio could be increased by the 2-3 fold. The signal-to-noise ratio was 20-30 db. Further, a simple method for the start-up and coarse adjustment was suggested. The principal stages of the start-up of the molecular generator are: tuning of the resonator for the absorption line, observation of the induced emission and generation, tuning of the resonator for the spectral line. In general, the transition from one stage to another is connected with changes in the radio circuit. The method suggested does not require any changes in the radio circuit, and permits a quick start of the molecular generator and a quick adjustment for the frequency of the spectral line with sufficient accuracy. Fig. 1 shows a block diagram of the arrangement. While the switch is closed, a saw-tooth voltage of a few kilocycles is applied to the auxiliary klystron of the "intensity gate". A frequency characteristic is observed on oscilloscopes, which consists of a number of narrow vertical lines each of which is a resonance curve of the narrow-band intermediate-frequency amplifier (band width 50-100 kc/sec). If the resonator is filled with ammonia at a pressure of 10^{-2} - 10^{-4} mm Hg, the frequency characteristic of the resonator shows a trough due to ammonia absorption. In photographs of the oscilloscope trace, the absorption line is observed up to pressures of a few 10^{-5} mm Hg. With higher vacuum and

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Simple method of tuning a...

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application of a voltage to the sorting system, the trough caused by absorption disappears, and an ejection appears instead of the absorption line; the ejection is caused by the initially induced emission and also by the generation. The tuning of the resonator adjusts the generation line to the maximum of the resonance curve of the resonator with sufficient accuracy. After switching off the high-frequency saw-tooth voltage, the signal of the molecular generator is obtained on the oscilloscope. There are 4 figures and 3 Soviet-bloc references.

ASSOCIATION: Kafedra atomnoy fiziki (Department of Atomic Physics)

SUBMITTED: July 18, 1960

X

Card 3/4

ACCESSION NR: AP4043502

S/0293/64/002/004/0633/0640

AUTHOR: Vernov, S. N.; Chudakov, A. Ye.; Vakulov, P. V.; Gorchakov, Ye. V.; Logachev, Yu. I.; Lyubimov, G. P.; Nikolayev, A. G.

TITLE: Investigation of cosmic radiation during the flight of the Mars-1 and Moon-4 space stations

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 4, 1964, 633-640

TOPIC TAGS: cosmic radiation, space station, Mars 1, Moon 4, Earth radiation belt, scintillation counter, gas discharge counter

ABSTRACT: Recordings of cosmic-radiation intensity beyond the Earth's magnetic field made during the flight of Mars-1 (20 November 1962 to 25 January 1963) and Moon-4 (2-14 April 1963) are discussed. Data on the Earth's radiation belts received from Mars-1 and data on the cosmic-ray intensity during various cycles of solar activity are given. The equipment aboard Mars-1 consisted of two scintillation and two Geiger gas-discharge counters. It was discovered that the intensity of cosmic radiation remains practically constant beyond a distance of 0.24 astronomical units. During the flight of Moon-4,

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ACCESSION NR: AP4043502

slow and smooth variations in cosmic-ray intensity connected with changes of the magnetic situation in the solar system were recorded. The particle fluxes in the radiation belts recorded by Mars-1 are given. The average energy yield in the crystal of the scintillation counters for a single count was about 2 Kev. Orig. art. has: 5 figures and 4 tables.

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L 21116-65 EEC-4/ENG(v)/EWA(h)/ENT(1)/EEC(t)/FS(v)-3/EEC(m)/FCG/FSF(h)/FSS-2
 Pg-5/Pg-4/P1-4/P1-4/Po-4/Pq-4/Pae-2/Peb/Pb-4 AEDC(b)/BSD/AFWL/SSD/ASD(a)-5/
 AEDC(a)/AFMD(c)/AFETR/AFTC(a)/AFTC(b)/APGC(f)/ESD(b1) TT/GW/dS
 S/0048/64/028/012/2058/2074
 ACCESSION NR: AP5002106

AUTHOR: Vernov, S. N.; Chudakov, A. Ye; Vakulov, P. V.; Gorchakov, Ye. V.; Ignat'yev, P. P.; Kuznetsov, S. N.; Logachev, Yu. I. Lyubimov, G. P.; Nikolayev, A. G.; Okhlopov, V. P.; Sosnovats, Z. N.; Tarnovskaya, V. V.

TITLE: Radiation study by Cosmos-17. [Report presented at the Vsesoyuznoye soveshchaniye po fizike kosmicheskikh luchey (All-Union Conference on the Physics of Cosmic Rays), held at Moscow, 4-10 October 1963]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 28, no. 12, 1964, 2058-2074

TOPIC TAGS: radiation measurement, spaceborne ionization measurement, primary cosmic radiation, scintillation counter, gas discharge counter/STS-5 gas discharge counter, Cosmos-17

ABSTRACT: The article describes equipment used in the flight of Cosmos-17 (apogee, 788 km; perigee, 260 km) for investigating the Earth's radiation belts and primary cosmic radiation. The equipment consisted of two scintillation counters (with NaI and CsI crystals) and

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ACCESSION NR: AP5002106

a STS-5 gas-discharge counter. The cylindrical NaI counter (20 X 20 mm) was mounted under the shell of the satellite and was fitted with aluminum shielding (1 g/cm²). On one channel it recorded ionization produced in the crystal by radiation; on the two others, it registered the number of pulses with energy release in the crystal over the specified thresholds (50 kev and Mav). The effective cross section of the NaI crystal for particles registered along the ionization and first threshold channels was approx. 4.7 cm²; for the second channel, it was roughly 5% smaller for particles with quadruple ionization and 20% smaller for relativistic particles.

The STS-5 gas-discharge counter has an effective cross section of 4.3 cm². It was placed inside the device containing the scintillation counter and was not fitted with any special protection. Up to counting rates of 3×10^3 pulse/sec, the counter registered virtually all particles. At higher rates, the count became less reliable.

The flat CsI counter (crystal diameter, 6 mm; thickness, 3 mm) was mounted outside the container. For protection from light, the crystal was covered with aluminum foil (2 mg/cm²). For protection against

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ACCZSSION NR: AP5002106

bremsstrahlung, the photomultiplier and the crystal were shielded with 5 mm of lead and 11 mm of aluminum, except for the front of the photomultiplier, which had a conical opening for particle incidence (aperture angle, 40°). This counter carried out ionization measurements and particle registration at energy release in the crystal of 45 and 160 kev and 5.4 and 8.5 Mev. Both electrons and protons could be registered along the first two (45 and 160 Kev) channels. Along the other two (5.4 and 8.5 Mev) channels, the count was mainly of protons; at an electron path perpendicular to the crystal surface energy losses were about 2 Mev and oblique-paths were precluded by the thickness of the shielding. Table 1 of the Enclosure gives the minimal particle energies registered by the counters. Orig. art. has 2 tables and 4 formulas.

ASSOCIATION: none

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L 04703-67 JKT

ACC NR: AP6030010

SOURCE CODE: UR/0020/66/169/005/1044/1047

AUTHOR: Vernov, S. N. (Corresponding member AN SSSR); Vakulov, P. V.; Gorchakov, Ye. V.; Logachev, Yu. I.; Lyubimov, G. P.; Nikolayev, A. G.; Pereslegina, N. V.

ORG:

TITLE: Measurement of intensity of penetrating radiation on the Moon's surface
[Paper presented at the Seventh COSPAR Meeting held in Vienna in May 1966]

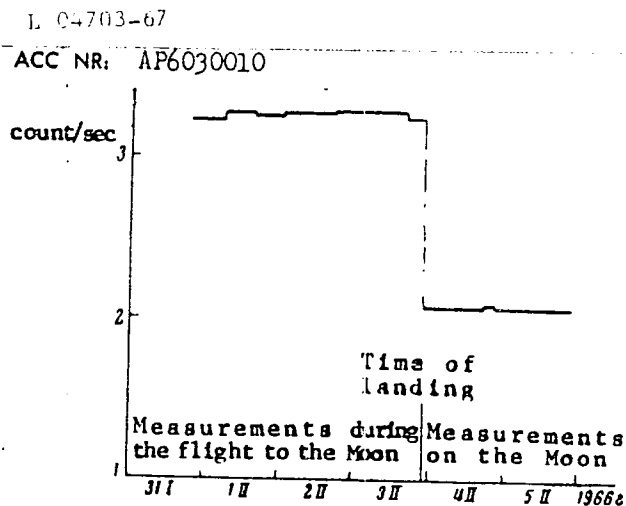
SOURCE: AN SSSR. Doklady, v. 169, no. 5, 1966, 1044-1047

TOPIC TAGS: moon, radiation intensity, lunar probe, radiation measurement/
Luna-9 lunar probe

ABSTRACT: The lunar probe "Luna-9" launched by the Soviet Union on 30 January 1966 made a soft landing on the Moon on 3 February at 24 hr, 45 min, 30 sec (Moscow time); it was equipped with an instrument containing a 6 x 10-mm discharge counter to measure the intensity of radiation. The minimum shielding of the counter mounted inside the probe near its jacket was ~ 1 gm/cm².

The instrument was switched on immediately after "Luna-9" was put into orbit and was kept in operation until the probe stopped functioning. The data on the intensity detected with the gas counter averaged over 14 time intervals are shown in Fig. 1. The first five time intervals are those for the flight from the Earth to the

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Moon. The next (sixth) interval is that for the flight near the Moon (beginning with at a distance of $\sim 50,000$ km from the Moon), the landing, and the first 5 minutes on the Moon's surface. The subsequent eight intervals are related to operations on the Moon's surface. Table 1 shows the accurate values of the time intervals and the mean-count rates recorded in these intervals. The basic errors in determining the count rate are statistical.

Fig. 1. The mean-count rate of "Luna-9" discharge counter

The data in Table 1 show that the mean-count rate recorded on the Moon's surface was about 63% of the count rate of the same counter in free space. In other words, if only primary cosmic rays had been detected, the counter on the Moon's surface would have counted not quite half as much as during the flight in free space. The detected excessive radiation

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Table 1.

	Interval boundaries	Averaging interval	Mean-count rate	Note
31 Jan 1966	18 h 38 min 40 sec	10 h 12 min 30 sec	3.229 ± 0.010	During the flight
1 Feb 1966	04 h 51 min 10 sec	10 h 54 min 20 sec	3.277 ± 0.010	"
	15 h 45 min 30 sec			
	23 h 01 min 45 sec	07 h 16 min 15 sec	3.267 ± 0.011	"
2 Feb 1966	16 h 29 min 00 sec	17 h 27 min 15 sec	3.278 ± 0.007	"
3 Feb 1966	15 h 34 min 15 sec	23 h 05 min 15 sec	3.286 ± 0.006	"
	21 h 50 min 00 sec	06 h 15 min 45 sec	3.245 ± 0.012	Near the Moon and on the Moon
4 Feb 1966	00 h 06 min 54 sec	02 h 16 min 54 sec	2.065 ± 0.016	On the Moon
	06 h 35 min 04 sec	06 h 28 min 10 sec	2.069 ± 0.010	"
	17 h 02 min 00 sec	10 h 26 min 56 sec	2.074 ± 0.008	"
	19 h 52 min 30 sec	02 h 50 min 30 sec	2.077 ± 0.014	"
5 Feb 1966	04 h 00 min 40 sec	08 h 08 min 10 sec	2.058 ± 0.009	"
	19 h 01 min 40 sec	15 h 01 min 00 sec	2.055 ± 0.006	"
	20 h 37 min 30 sec	01 h 35 min 50 sec	2.059 ± 0.020	"
	22 h 42 min 20 sec	02 h 04 min 50 sec	2.059 ± 0.017	"

The mean-count rate during the flight is 3.272 ± 0.004

The mean-count rate on the Moon is 2.064 ± 0.004

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ACC NR: AP6030010

is 0.43 count/sec or ~26% of half the cosmic-ray intensity. This excessive radiation may be due to the radioactivity of the Moon's surface and to the secondary cosmic radiation produced by the primary cosmic radiation in the matter on the Moon's surface region closest to the station (cosmic-ray albedo).

Until now, no experimental data have been available on the radioactivity of the Moon's surface. The "Luna-9" measurements make it possible to evaluate the radioactivity of the Moon's surface in the landing area near the Ocean of Storms. Assuming that the total detected additional radiation is due to the radioactive gamma radiation from the Moon's surface, the radioactivity of the Moon's surface may be ~20 times greater than that of the Earth's surface (the count rate of "Luna-9" from the natural radioactivity on Earth was 0.02 count/sec). However, the radioactivity on the Moon's surface has been evidently overestimated, because the effect of multiplication of the primary cosmic radiation producing the cosmic-ray albedo particle fluxes may explain the major part or even all of the additional radiation detected. Using the data from an earlier Soviet paper, it can be shown that the albedo particle flux is 20% of the total cosmic-ray flux or 40% of half the cosmic-ray flux. Additional considerations show that at least in the region of the "Luna-9" landing, cosmic rays will be the main source

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L 04003-67
ACC NR: AP6030010

of radiation hazard and that the radioactivity on the surface of the Moon is close to the radioactivity on the surface of the Earth.

It was shown during the flight of the second Soviet space probe in September 1959 that at the distances greater than 1000 km from the Moon's surface, the intensity of the radiation trapped by a possible lunar magnetic field does not exceed 10% of the cosmic-ray intensity. The "Luna-9" data make it possible to evaluate the fluxes of the trapped radiation at distances less than 1000 km from the Moon's surface.

The mean-count rate just before and during the first minutes after the landing was 3.25 ± 0.012 count/sec (see Table 1). If this count rate is corrected for the geometric shielding of the counter by the Moon during the approach of the station to the Moon and during the period of radiation detection on the Moon's surface (this correction is about 1%), the resulting count rate is 3.28 count/sec. This practically coincides with previous measurements. The time required for the "Luna-9" to cover the last 1000 km to the Moon's surface was $\sim 2\%$ of the time measured in the given interval. At the measuring accuracy mentioned above, an increase of 50% in the count rate during this time interval would be noticeable.

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Thus the upper limit for the possible radiation flux penetrating the "Luna-9" jacket and trapped by the hypothetical magnetic field of the Moon at the altitudes below 1000 km from the Moon's surface is not more than half the primary cosmic-radiation flux. The variation which would decrease the intensity of cosmic rays might somewhat change the evaluation of the upper limit of the hypothetical trapped radiation near the Moon, but the main conclusions that the Moon has no radiation belts and consequently no marked magnetic field remain unchanged.

Fig. 2 shows the mean-count rates in free space and on the Moon's surface. The intensity in the transition interval has been corrected for the geometric shielding by the Moon.

It can be seen from Fig. 2 that the cosmic-ray intensity undergoes slow gradual changes (solid curve) similar to those recorded during the flight of "Luna-4." This makes it possible to assume that during the period of the station's approach to the Moon, no appreciable variation in cosmic-ray intensity occurred. Neither the available neutron-monitor data nor the stratospheric data of A. N. Charakhchyan and T. N. Charakhchyan (unpublished) revealed any considerable decrease in the cosmic-ray intensity.

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L. 047C3-67

ACC NR: AP6030010

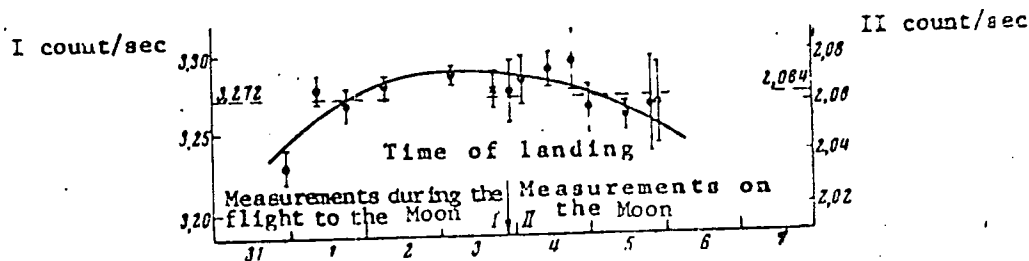


Fig. 2. The count rates of the discharge counter during the "Luna-9" flight in free space and on the Moon's surface. The mean-count rate on the Moon's surface has been reduced to the mean-count rate during the flight, and the scale has been changed in proportion to the mean-count rates during the flight and on the Moon's surface.

The absolute flux of the cosmic-ray particles detected by "Luna-9" was equal to $5.35 \pm 0.5 \text{ cm}^{-2} \text{ sec}^{-1}$. The great error in the determination of the absolute fluxes is due to the 10% uncertainty in the operational dimensions of the counter. Analogous measurements from "Luna-7" and "Luna-8" stations performed on 4-6 October and 3-6 December 1965 have shown the particle fluxes to be 5.4 and 5.9 $\text{cm}^2 \text{ sec}$, respectively. The cosmic-ray intensity in February 1966 decreased compared to December 1965. This

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ACC NR: AP603001C

is likely to be associated with the beginning of a new cycle of solar activity.

Thus the cosmic-ray intensity maximum occurs during the period December 1965—January 1966, and the lag in the cosmic-ray intensity maximum behind the solar maximum detected for the protons of energies higher than 30 Mev is about 1.5 years. This conclusion is also confirmed by the data of the "Zond-3," "Venus-2," and "Venus-3" space probes.
[FSB: v. 2, no. 10]

SUB CODE: 22 / SUBM DATE: 11May66 / ORIG REF: 003 / OTH REF: 001

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ACC NR: AP7000527 SOURCE CODE: UR/0048/65/030/011/1815/1817

AUTHOR: Lyubimov, G. P.

ORG: none

TITLE: Measuring the intensity of cosmic radiation by means of Zond-1, Zond-2, Zond-3, Luna-5, and Luna-6 automatic space stations /Paper presented at the All-Union Meeting on Physics of Cosmic Radiation held in Moscow from 15 to 20 November 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 11, 1966, 1815-1817

TOPIC TAGS: cosmic ray, cosmic ray intensity, cosmic ray measurement, automatic space station

ABSTRACT: Interplanetary automatic space stations of the "Zond" series carried special instrumentation for measuring cosmic ray emissions in interplanetary space and in the Earth's radiation belts. The instrumentation consisted of scintillation and gas-discharge counters. STS-5-type Geiger counters were mounted inside the spacecraft. Counters of the SBM-10 type were mounted inside Luna-5 and Luna-6. Results of measurements obtained with the Geiger counters are presented. A comparison of daily mean values of emission intensity measured by the interplanetary stations indicates variations in cosmic ray intensity which are analogous to those recorded by the Luna-4 spacecraft. Maximum deviations from the mean values during measurements were $\pm 2\%$ for

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ACC NR: AP7000527

Zond-1, +4% for Zond-4, +5% for Zond-3, and +6% for Luna-6. These variations in cosmic ray intensity are related to the presence of spatial magnetic inhomogeneities in near solar space and to variations in the magnetic component of solar cosmic rays. A comparison of data on cosmic ray intensity measured by Mars-1 and Luna-4 with data obtained by Zond-1, Zond-2, Zond-3, Luna-5, and Luna-6 reveals a further increase in intensity. Orig. art. has: 2 figures.

[WA-75]

[JR]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 004

Card 2/2

LYUBIMOV, I., kand.sel'skokhozyaystvennykh nauk

Herd of cows with high butterfat production. Nauka i pered. op.
v sel'khoz. 8 no.10:52 0 '58. (MIRA 11:11)
(Dairy cattle)

KALLISTOV, P.L.; ZENKOV, D.A.; PROKOF'YEV, A.P. Prinimali uchastiye:
BOGDANOV, F.M.; BORZUNOV, V.M.; BURYBLIN, A.V.; DROZDOV, M.D.;
YEROF'EYEV, B.N.; KOMISSAROV, A.K.; KOGAN, I.D.; LYUBEROV, I.A.;
MIRLIN, R.Ye.; ROKHLIN, M.I.; SERGEYEV, P.V.; SEMENOV, A.D.;
FROLOV, V.V.; NEMANOVA, G.F., red. izd-va; GORDIYENKO, Ye.B.,
tekhn. red.

[Instructions for applying the classification of reserves to
primary gold deposits] Instruksia po primeneniui klassifi-
katsii zapasov k korennyim mestorozhdeniiam zolota. Moskva,
Gos. nauchno-tekhn.izd-vo lit-ry po geol. i okhrane neдр, 1955.
46 p. (MIRA 15:2)

1. Russia (1923- U.S.S.R.) Gosudarstvennaya komissiya po zapa-
sam poleznykh iskopayemykh.
(Gold ores--Classification)

LYUBIMOV, IGOR'.

Trawlers put out to sea. Vypel 11 no.21:16-17 N '48.
(MIRA 12:3)
(Trawls and trawling)

SMIRNOV, G.; LYUBIMOV, I.

Put to use the potentialities of the Channel Dredging and
Maintenance Fleet. Mor. flot 22 no.3:38-40 Mr '62.(MIRA 15:2)

1. Nachal'nik otдела morskikh putey Glavporta (for Smirnov).
2. Otdel morskikh putey Glavporta (for Lyubimov).
(Dredging machinery)

11
LYUBIMOV, I. A.

12
Lyubimov, I. A. HYPERGENIC PROCESSES IN THE FORMATION OF BAUXITES IN THE PETROPAVLOVSK REGION. *Bull. acad. sci. U.R.S.S., Ser. geol.*, No. 4, 25-34 (1942) (English summary 34).—L. shows that during bauxite formation in this region the primary deposit was subjected to diagenetic and hypergenetic modifications, with the latter occurring to depths of 150 to 200 m. Up to 7% pyrite is present in the deep zones. The irregular structure of the underlying Silurian limestones is due to H_2SO_4 arising from the pyrite.

Lyubimov, I. A. CHEMICAL COMPOSITION OF BAUXITES FROM NORTHERN URAL. *Tekhn. Metal.* 19 [4] 1-7 (1944). 44 over 20,000 chemical analyses of north Ural bauxites (500) were treated statistically in order to obtain a general picture of these deposits. On this basis the means for these bauxite deposits are: Al_2O_3 40 to 59, Fe_2O_3 21 to 24, SiO_2 3 to 7, TiO_2 2, CaO 0.9 for the upper layers and 1.8 to 2.5 for the deep horizons, MgO 0.6 to 0.8, C (not counting carbonates) 0.83, and S 1.1%. The combined sum of Al, Fe, Si, Ti, Ca, Mg, C, S, O, and H is 99%, leaving less than 1% for 15 other elements determined in the analyses. The deviations from the mean, and variations with locality and depth of deposits are given.

VINOGRADOV, S.S.; LYUBIMOV, I.A., redaktor; NEMANOVA, G.F., redaktor;
KRYNOCHKINA, K.V., tekhnicheskii redaktor.

[Directions for applying the classification of resources to
dolomite and magnesite deposits] Instruktsiia po primeneniui
klassifikatsii zapasov k mestorozhdeniiam dolomitov i magne-
zitov. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geologii
i okhrane neдр, 1955. 50 p. (MLRA 9:6)

1. Russia (1923- U.S.S.R.) Gosudarstvennaya komissiya po zapasam
poleznykh ~~iskopayemykh~~.
(Dolomite) (Magnesite)

SMIRNOV, V.I.; PROKOF'YEV, A.P.; BORZUNOV, V.M.; DYUKOV, A.I.; ZHDANOV,
M.A.; LYUBIMOV, I.A.; NEKIPKLOV, V.Ye.; PLOTNIKOV, M.A.;
ANTROPOV, P.Ya., glavnyy red.; FEDOTOVA, A.I., red.izd-va;
GUROVA, O.A., tekhn.red.

[Estimation of reserves of mineral deposits] Podschet zapasov
mestorozhdenii poleznykh iskopaemykh. Pod red. V.I.Smirnova i
A.P.Prokof'eva. Glav.red. P.IA.Antropov. Moskva, Gos.nauchno-
tekhn.izd-vo lit-ry po geol. i okhrane neдр, 1960. 671 p.
(MIRA 14:1)

(Mines and mineral resources)

LYUBIMOV, I

Posobiye Dlya Lebedcnika Dnougubitel'nogo Flota (Reference Book for the Winch Operator of a Greedier Fleet, by) I. I. Lyubimov. Moskva, Morskoy Transport, 1950.

144 p. Illus.

Cataloged from Abstract.

Elementary information pertinent to nautical transportation, Approaching Channels, Winch Operator's work, Special equipment, Emergency Mechanisms, as well as organization and Production.

N/5
741.61
.L9

TRUSOV, L.P., inzh.; LYUBIMOV, I.I., inzh.

Standard plans of cylindrical reinforced concrete tanks for
petroleum products. Mont. i spets. rab. v stroi. 24 no.10:
30-31 '62. (MIRA 15:10)
(Tanks—Standards)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50		
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ
1ST AND 2ND GROUPS										PROCESSES AND PROPERTIES INDEX										3RD AND 4TH GROUPS																															
<div style="display: flex; justify-content: space-between;"> <div> <p>LYUBIMOV, I. M.</p> <p>ca</p> </div> <div> <p>The fertility of hybrid bulls. V. V. Ivanova and I. M. Lyubimov. <i>Doklady Vsesoyuz. Akad. Sel'sko-Khoz. Nauk</i> (M., V.I. Lenina 13, No. 11, 42-8(1948)). - To overcome the low fertility upon the inbreeding of the cross between the yak (<i>Bos grunniens</i>) and the regular livestock (<i>Bos taurus</i>) a high protein content of the feed and especially animal protein was found to be very helpful. This type of feeding increased spermatozoa formation and sex activity.</p> <p>J. S. Joffe</p> </div> <div> <p>116</p> </div> </div>																																																			
<div style="display: flex; justify-content: space-between;"> <div> <p>ASB S.A. METALLURGICAL LITERATURE CLASSIFICATION</p> </div> <div> <p>13000 600000</p> </div> </div>																																																			
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1957.11.11
LYUBIMOV, I.M., kand.sel'skokhozyaystvennykh nauk

For the benefit of the cause. Zhivotnovodstvo 19 no.11:91 N '57.
(MIRA 10:12)

(Cattle breeding)

LYUBIMOV, I.M., kand. sel'skokhozyaystvennykh nauk

A book on yaks ("Domesticated yaks and their hybrids" by V.F. Denisov.
Reviewed by I.M. Liubimov. Zhivotnovodstvo 21 no.11:95-96 N '59
(Yaks) (Denisov, V.F.) (MIRA 13:3)

S/182/63/000/002/001/007
A004/A126

AUTHORS: Rebel'skiy, A. V. (Deceased), Protopopov, O. V., Sogrishin, Yu. P.,
Lyubimov, I. M.

TITLE: Selecting the parameters of crank presses for die pressing

PERIODICAL: Kuznechno-shtampovoye proizvodstvo, no. 2, 1963, 1 - 7

TEXT: The authors point out that, since the existing press designs used in die pressing show a number of deficiencies, plants and institutes in the Soviet Union and abroad have been trying for some years to design die-forging presses particularly adapted to die pressing. In this connection they mention press designs developed by Messrs. Massey and an automatic 1,000 ton press designed and built by the Voronezh TMP Plant according to orders of the Kuybyshev "Avtotraktorodetal'" Plant. The TSEKM provided for the development of a range of crank presses of from 400 to 4,000 tons capacity, while the ENIKMASH together with MAMI suggested the basic parameters of these presses in 1961. Engineers S. A. Ryaskov and Yu. I. Lubyanskiy participated in this work. To determine the main press parameters, a great number of components were studied that are pro-

Card 1/2

S/182/63/000/002/001/007
A004/A126

Selecting the parameters of...

duced by plants of the automotive, agricultural machine-building, machine-tool, shipbuilding and aircraft industries, of which some 100 types and sizes were chosen that could be expediently produced by die pressing. It was found that the number of transitions, depending on the configuration and size of the forgings, very often does not exceed three (upsetting, pressing and final die pressing). The authors give a detailed description of the rating of the main press parameters suggested, present appropriate formulae, graphs and tables, and point out that these parameters have been approved by a number of plants. There are 5 figures and 3 tables. ✓

Card 2/2

LYUBIMOV, I.M.; PROTOPOPOV, O.V.; BAKHOVKIN, A.M.; SEN'KIN, I.T.

Electric upset forging of heat-resistant and stainless steels and alloys. Kuz.-shtam.proizv. 6 no.1:5-10 Ja '64. (MIRA 17:3)

LYUBIMOV, I.M., kand.sel'skokhoz. nauk

Comparative craniological investigation of rare hybrids of the subfamily Bovinae (European bison, grey Ukrainian cattle, yak, and their hybrids). Nauch. trudy "Ask.-Nov." 1963-69 '63. (MIRA 17:4)

KUBANSKIY, Georgiy; LYUBIMOV, I.M., red.; KONOVALYUK, I.K., mladshiy
red.; GOLITSYN, A.V., red.kart; STOTSKAYA, Z.I., tekhn.red.;
ZOLOTAREVA, I.Z., tekhn.red.

[The young land; across Kola Peninsula] Molodaya zemlia; po
Kol'skomu poluostrovu. Moskva, Gos.izd-vo geogr.lit-ry, 1960.
100 p. (MIRA 13:12)
(Kola Peninsula--Description and travel)

CHETVERIKOVA, Nataliya Petrovna; BOGDANOV, A.A., red.; LYUBIMOV, I.M.,
red.; YERMAKOV, M.S., tekhn.red.

[Ordovician and Silurian sediments in the western part of central
Kazakhstan] Ordovikskie i siluriiskie otlozheniia zapadnoi chasti
TSentral'nogo Kazakhstana. Izd-vo Moskovskogo universiteta,
1960, 97 p. (Materialy po geologii TSentral'nogo Kazakhstana,
vol.1). (MIRA 15:3)

(Kazakhstan--Geology)

ZAYTSEV, Yuliy Aleksandrovich; LYUBIMOV, I.M., red.; YERMAKOV, M.S.,
tekhn.red.

[Hercynian tectonic pattern in the western part of the Sary-Su
Tengiz watershed and the Ulu-Tau] Gertsinskaia tektonicheskaja
struktura zapadnoi chasti Sarysu- Tenizskogo vodorazdela i Ulu-
Tau. Izd-vo Moskovskogo Universiteta, 1961. 175 p. (Materialy
po geologii TSentral'nogo Kazakhstana, vol. 3) (MIRA 15:3)
(Kazakhstan--Geology, Structural)

MARTYNOVA, Margarita Vladimirovna; LYUBIMOV, I.M., red.; YERMAKOV, M.S.
tekhn.red.

[Stratigraphy and brachiopods of the Famennian stage in the
western part of central Kazakhstan] Stratigrafiia i brakhiopody
famenskogo iarusu zapadnoi chasti tsentral'nogo Kazakhstana. Izd-vo
Moskovskogo universiteta, 1961. 208 p., 28 plates (Materialy
po geologii tsentral'nogo Kazakhstana, vol. 2) (MIRA 15:3)
(Kazakhstan--Geology, Stratigraphic) (Brachiopoda, Fossil)

LYUBIMOV, I.M.

Economic and geographic problems in developing the iron ore basin
of the Kursk Magnetic Anomaly. Vest. Mosk.un. Ser. 5: Geog. 16
no.5:55-59 S-0 '61. (MIRA 14:9)

1. Institut geografii AN SSSR.
(Kursk Magnetic Anomaly--Economic geography)

DOLGOPOLOV, Konstantin Vasil'yevich; FEDOROVA, Ye.F.; MIRONOV, B.P.;
ANISHCHENKO, K.A.; POKSHINSEVSKIY, V.V., otv. red.; LYUBIMOV,
I.M., red.; KONOVALYUK, I.K., mladshiy red.; KISELEVA, Z.A.,
Z.A., red. kart; VILENSKAYA, E.N., tekhn. red.

[Central Black Earth Region; economic and geographical
characteristics] Tsentral'no-chernozemnyi raion; ekonomiko-
geograficheskaya kharakteristika. Moskva, Gos. izd-vo geogr.
lit-ry, 1961. 414 p. (MIRA 14:10)
(Central Black Earth Region--Geography, Economic)

STEPANOV, Petr Nikolayevich; LYUBIMOV, I.M., red.; KISELEVA, Z.A., red.
kart; KOSHELEVA, S.M., tekhn. red.

[Geography of the heavy industry of the U.S.S.R.] Geografiya tiazhe-
loi promyshlennosti SSSR. Moskva, Gos. izd-vo geogr. lit-ry, 1961.
150 p. (MIRA 14:10)

(Industries, Location of)

MEL'NIKOVA, Klara Petrovna; GORDEYEV, D.I., red.; LYUBIMOV, I.M.,
red.; GEORGIYEVA, G.I., tekhn. red.

[Development of Soviet soil science in connection with road
construction and hydraulic engineering] Razvitie sovetskogo
gruntovedeniia v sviazi s dorozhnym i gidrotekhnicheskim
stroitel'stvom. Pod red. D.I.Gordeeva. Moskva, Izd-vo Mosk.
univ., 1961. 218 p. (MIRA 15:2)

(Soil research)

LYUBIMOV, Igor' Mikhaylovich; TIKHOMIVORV, V.N., red.; ATROSHCHENKO,
A.Ye., tekhn. red.

[The farthest corner; the Far East is the territory of
countless riches] Samyi dal'nii; Dal'nii Vostok - kraj ne-
smetnykh bogatstv. Moskva, Izd-vo "Znanie," 1962. 38 p.
(Novoe v zhizni, nauke, tekhnike. XII Seriya: Geologiya i
geografiia, no.17) (MIRA 15:11)
(Soviet Far East—Economic geography)

POKSHISHEVSKIY, V.V.; RYAZANTSEV, S.N.; LYALIKOV, N.I.[deceased];
LYUBIMOV, I.M., red.; KONOVALYUK, I.K., mladshiy red.;
KISELEVA, Z.A., red. kart; GLEYKH, D.A., tekhn. red.

[The Central Region; economic and geographical features]
TSentral'nyy raion; ekonomiko-geograficheskaya kharakte-
ristika. Moskva, Geografiz, 1962. 799 p. (MIRA 15:7)

1. Akademiya nauk SSSR. Institut geografii.
(General industrial region--Economic geography)

LYUBIMOV, I.M.

Far Eastern Economic Region. Geog. v shkole 25 no. 5:1-26
S-O '62.

(Soviet Far East—Economic conditions)

KOVAL'SKAYA, Natal'ya Yakovlevna; SAUSHKINA, Yu.G., prof., red.;
LYUBIMOV, I.M., red.; KOZLOVA, T.A., tekhn. red.

[Methodology for economic geography research] Metodika ekonomiko-
geograficheskikh issledovani; uchebnoe posobie dlia geografi-
cheskikh fakul'tetov universitetov. Moskva, Izd-vo Mosk. univ.,
1963. 233 p. (MIRA 16:4)
(Geography, Economic--Methodology)

PARMUZIN, Yuriy Pavlovich; LYUBIMOV, I.M., red.; KIR'YANOVA, Z.V.,
mlad. red.

[Central Siberia; outline of its nature] Sredniaia Sibir';
oчерk prirody. Moskva, Izd-vo "Mysl'," 1964. 308 p.
(MIRA 17:6)

LYUBIMOV, I.M. (Moskva)

Siberian mica. Priroda 53 no.2:72 '64.

(MIRA 17:2)

KALESNIK, Stanislav Vikent'yevich; DOBRONRAVOVA, K.O., red.;
LYUBIMOV, I.M., red.; KONOVALYUK, I.K., mlad. red.;
VAS'KINA, R.S., tekhn. red.

[Outline of glaciology] Ocherki gliatsiologii. Moskva,
Geografiz, 1963. 550 p. (MIRA 17:2)

OLENEV, Andrey Mikhaylovich; LYUBIMOV, I.M., re

[The Urals and Novaya Zemlya; a study of nature] Ural :
Novaya Zemlia; ocherk prirody. Moskva, Mysl', 1961. 212 p.
(MIRA 18:1)

DOBROVOL'SKIY, Aleksey Dmitriyevich; ZALOGIN, Boris Semenovich;
POLOZHENTSEVA, T.S., mlad. red.; LYUBIMOV, I.M., red.

[Seas of the U.S.S.R.; their nature and utilization]
Moria SSSR; priroda, khoziaistvo. Moskva, Mysl', 1965.
350 p. (MIRA 18:9)

BAZUNOV, Boris Anatol'yevich; GANTMAN, Vladimir Gentsianovich, inzh.;
LYUBIMOV, I.M., red.; MAKAROVA, E.I., ml. red.

[Clear sailing] Tri futa pod kilen. Moskva, Nysl', 1965.
215 p. (MIRA 18:10)

LYUBIMOV, I.P.

F

1614. BURNING VISCOUS RESIDUAL OILS IN A SHORT FLAME AS METHOD OF IMPROVING THE PROCESS OF COMBUSTION. Lyubimov, I.P. (Energ. Byull. (Pwr Bull.). Aug. 1951, 8-12). The design of oil burners is discussed and the performance of those with steam and air atomization respectively are compared. (L).

1. 4. 12. 1957
LYUBIMOV, I.V.; SMIRNOV, N.I.

~~Regulatory~~
Regulatory in the transfer of mass in adsorption. Zhur. prikl.
khim. 30 no.9:1408-1413 S '57. (MIRA 11:1)

1. Kafedra tekhnologii osnovnogo organicheskogo sinteza i sinteticheskikh kauchukov Leningradskogo tekhnologicheskogo instituta imeni Lensoвета.

(Adsorption)

LYUBIMOV I. V.

1. Adsorption processes. IV. The dynamic activity of adsorbents. I. V. Lyubimov and N. I. Smirnov (Leningrad Technol. Inst. of Engrs.). *Zhur. Priklad. Khim.* 30, 1891-8 (1957); cf. C.A. 52, 4251i. The simplex $A = (a_1, \dots, a_n)/a_n$ (loc. cit.) is expressed criterionally by $A = f(R_0, C, G_1, G_2)$, where the geometrical criteria $G_1 = d/h$ and $G_2 = d_1/d$, d_1 = mean grain diam. of adsorbent (cf. C.A. 49, 12883d) and C is the mole fraction of the adsorbing gas in the gas stream (loc. cit.). For the available data on the adsorption of vapors of H_2O and C_4H_{10} by activated SiO_2 and C_4H_{10} and C_4H_{10} by activated C the plots A vs. R_0 are linear functions. In the high concn. range the lines are parallel, so that $A_1 = bR_0^{0.7}$. In the low concn. range only the data on adsorption of H_2O vapor by SiO_2 are available; A vs. R_0 is a linear function. If the generalization in the high concn. range holds in the low concn. range, then $A_1 = aR_0^{0.7}$. Empirically, b is independent of G_1 and G_2 and a is independent of G_1 and G_2 , so that $A_1 = 0.0016R_0^{0.7}C^{-1.4}$ and $A_2 = 0.01R_0^{0.7}G_1^{-1.7}$. The point of sepn. of the high and low concn. ranges is located at the intersection of the A vs. R_0 lines at which point $A_1 = A_2$ and $R_0C^{1.4}G_1^{1.7} = 0.261$. These results confirm the postulate that the static activity a is the controlling coeff. characteristic of the adsorbing gas and the adsorbent. I. Benconitz

Distr: HELJ

gag

LYUBIMOV, I. V., Cand Tech Sci (diss) -- "A study of the processes of adsorption". Leningrad, 1959. 14 pp (Min Higher and Inter Spec Educ USSR, Leningrad Order of Labor Red Banner Tech Inst in Leningrad Soviet, Chair of Tech of Basic Organic Synthesis and Synthetic Rubber), 200 copies (KT, No 10, 1960, 1961)

LYUBIMOV, K., inzh.

Panel drawing board. Prom.koop. 14 no.8:17 Ag '60.
(MIRA 13:8)

1. Proizvodstvennoye konstruktorskoye byuro Rospromsoвета.
(Mechanical drawing--Equipment and supplies)

USSR/Electricity - Cables
Books

Feb 51

"Review of I. I. Grodnev and B. F. Miller's Book 'Communications Cables,'" E.F. Ukstin, K. A. Lyubimov, M. I. Venchugov, Engineers, State Sci Res Inst of Cable Ind

"Elektrichestvo" No 2, pp 94, 95

Favorable review of subject book, in which are investigated the principles of communications cable theory, principles of their elec calculation and constr, and problems involving production technol of sym and coaxial cables. Special attention is given to the

178T37

USSR/Electricity - Cables (Contd)

Feb 51

theory of influence in cable circuits, constr of coaxial cables, and shielding. Published by "Gosenergoizdat," 480 pp, R 15:65.

178T37

LYUBIMOV, K. A.

LYUBIMOV, K. A. Cand. Tech. Sci., SERGEYCHUK, K. Ya. and UKSTIN, E. F.

"On the Problem of Using New Types of Intercity Communications Cables," Vest.
Svyazi, No.7, pp 3-5, 1953

Translation No. 543, 27 Apr 56

GRODNEV, I.I.; LYUBIMOV, K.A.; UKSTIN, E.F.

Multilayer combination shields for communication cables. Elektro-
sviaz' 10 no.12:48-56 D '56. (MLBA 9:12)
(Electric cables)

BEZSONOV, Boris L'vovich; GORODETSKIY, Sergey Sergeyevich; GRODMEV, Igor' Izmaylovich; LINKOV, Aleksandr Vladimirovich; LYUBIMOV, Konstantin Aleksandrovich; MACHERET, Lev Il'ich; PRIVEZENTSEV, Vladimir Alekseyevich; SAPAROVA, A.L., red.; LARIONOV, G.Ye., tekhn.red.

[Cables and wires] Kabeli i provoda. Pod obshchei red. V.A. Privezentseva i A.V.Linkova. Moskva, Gos.energ.izd-vo, Vol.1.
[Fundamentals of theory, calculation, and construction] Osnovy teorii, raschet i konstruirovaniye. 1959. 559 p. (MIRA 13:2)
(Electric cables) (Electric wires)

LYUBIMOV, Konstantin Aleksandrovich; ZAV'YALOV, V.P., red.; BORUNOV, N.I.,
tekhn.red.

[French electric cable industry] Frantsuzskaya kabel'naya pro-
myshlennost'. Moskva, Gos.energ.izd-vo, 1960. 158 p.

(MIRA 13:10)

(France--Electric cables)

LYUBIMOV, K.A.; MAKHOV, Yu.V.; NAZAR'YEV, O.V.; YARMAK, M.I.;
~~SHVARTSMAN, V.C.~~, otv. red.; VOLODARSKAYA, V.Ye., red.;
CHURAKOVA, V.A., tekhn. red.

[Telephone and wire broadcasting cables with polychlorovinyl
and polyethylene insulation] Kabeli dlia sel'skoi telefonnoi
sviazi i radiofikatsii s polikhlorvinilovoi i polietilenovoi
izoliatsiei. Moskva, Sviaz'izdat, 1962. 42 s.

(MIRA 16:8)

(Electric cables) (Polyethylene)

37574

S/114/52/006/005/006/007
A055/A101

9.2165

AUTHORS: Grodnev, I.I.; Lyubimov, K.A.; Sverkalova, A.P.

TITLE: Investigation of multilayer shields in coaxial cables

PERIODICAL: Elektrosvyaz', no. 5, 1962, 63 - 68

TEXT: The authors describe a mathematical method for calculation multi-layer shields in coaxial cables. The shielding factor of a coaxial cable being expressed by the ratio of the electric field strength axial components on the external and internal surfaces of the cable shield, i.e.:

$$S = \frac{E_z(r_{ext})}{E_z(r_{int})}$$

it is necessary, in the case of a three-layer shield (copper-steel-copper), to know the field strengths at $r_{ext} = r_4$ and $r_{int} = r_1$ (Fig. 2). To solve this problem, the authors write down the Maxwell equations for the components E_z and H_φ (in the cylindrical system of coordinates) and deduce, first, the general expressions giving E_z and H_φ and, then, a set of particular expressions for

Card 1/3

Investigation of multilayer shields in coaxial cables S7106/62/000/005/006/007
A055/A101
thin shields. The shielding factor of the examined three-layer shield, such as
finally found by the authors, is:

$$S_{123} = \frac{1}{\operatorname{ch} k_1 t_1 \operatorname{ch} k_2 t_2 \operatorname{ch} k_3 t_3} \frac{1}{\left(1 + \frac{Z_{m1}}{Z_{m2}} \operatorname{th} k_1 t_1 \operatorname{th} k_2 t_2\right) \left(1 + \frac{Z_{m2}}{Z_{m3}} \operatorname{th} k_2 t_2 \operatorname{th} k_3 t_3\right)}$$

where $K = \sqrt{j\omega\mu\sigma}$ are the eddy currents coefficients of the corresponding shield layers; t are the thicknesses of the shield layers; $Z_m = \sqrt{\frac{j\omega\mu}{\sigma}}$ are the wave impedances of the metal of the corresponding layers. On the basis of this formula, the authors obtain also analogous formulae for the shielding factor of the two-layer and one-layer shields. The authors next deal with the calculation of the "shielding attenuation" in the case of the three-layer (copper-steel-copper) shields and for different thicknesses of the copper and steel layers, the total thickness of the shield being constant and equal to 0.2 mm; this calculation was made for the 60 - 550 kc/s range. Two graphs are presented, giving, respectively, the frequency dependence of the attenuation and its dependence on the increase of the thickness of the steel layer. Another graph shows

Card 2/3

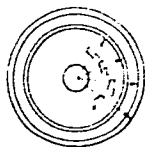
Investigation of multilayer shields in coaxial cables

S/106/62/006/006/006/007
A055/A10:

the relative importance of the "absorption attenuation" and the "reflection attenuation" in the case of a three-layer aluminum-steel-aluminum shield. At the end of the article, the authors reproduce a table giving the measured crosstalk attenuation between small coaxial cables, intended for the h-f multiplexing system K-300. The Soviet personality mentioned in the article is V. Mashkova. There are 5 figures and 2 tables.

SUBMITTED: December 15, 1961

Figure 2:



Card 3/3

GRODNEV, I.I., prof. LYUBIMOV, K.A.; UKSTIN, E.F.

Future development of wire communications technology. Vest.
svyazi 22 no.1:11-13 Ja '62. (MIRA 14:12)

1. Vsesoyuznyy zaochnyy elektrotekhnicheskii institut svyazi
(for Grodnev). 2. Zamestiteľ nachal'nika Nauchno-issledovatel'skogo
instituta kabel'noy promyshlennosti po nauchnoy chasti (for
Lyubimov).

(Telephone lines)

(Radio lines)

LYUBIMOV, K.A., kand.tekhn.nauk

The electric cable industry during the seven-year plan. Vest.
elektroprom. 33 no.6:1-3 Je '62. (MIRA 15:7)
(Electric cables) (Electric equipment industry)

LYUBIMOV, K.A., kand.tekhn.nauk; YARMAK, M.I., inzh.

Economical communications and wire broadcasting cables. Vest.
elektroprom. 33 no.9:10-13 S '62. (MIRA 15:10)
(Electric cables) (Electric lines—Underground)

LYUBIMOV, K.A., kand.tekhn.nauk; RUDZSKIY, Z.I., inzh.

Corrosion resistance of cables with aluminum strands insulated by
R-230 plastic. Vest. elektroprom. 3/ no.5:52-55 My '63.

(MIRA 16:5)

(Electric cables--Corrosion)

LYUBIMOV, K.A., kand. tekhn. nauk

Study of capacitive coupling in a quadded cable. Vest. elektroprom
34 no.6:25-30 Je '63. (MCRA 16:7)

(Electric cables)

GRODNEV, I.I., doktor tekhn.nauk; LYUBIMOV, K.A., kand.tekhn.nauk;
SVERKALOVA, A.P., inzh.

Small-sized coaxial cable. Elektrotehnika 35 no.3:46-47
Mr '64. (MIRA 17:5)

GAVRILYUK, Vladimir Vasil'yevich; LUBIMOV, Konstantin Alekseevich;
MOLOCHINSKAYA, Angelina Vasil'yevna; GRASIN, Aleksey
Antonovich

[Communication system for a . . . electrified railway . . .
svyazi dlia elektrifikatsii zheleznykh dorog poverkhnost'nykh
Moskva, Transport, 1961. 158 p. . . A 101

GAVRILYUK, V.V., kand.tekhn.nauk; LYUBIMOV, K.A., kand.tekhn.nauk;
MALOCHINSKAYA, A.N., inzh.

Measurement of an ideal coefficient of protective magnetic
action of a cable sheathing. Elektrotehnika 36 no.11:51-53
N '65. (MIRA 18:11)

LYUBIMOV, K.

The quality of production is improving. Prom.koop. no.1:26 Ja '56.
(MLRA 9:6)

1.Starshiy inzhener proyektno-konstruktorskogo byuro Rospromsoвета.
(Furniture industry)

LYUBIMOV, K.N., inzhener; ABROSIMOV, V.I., inzhener.

Hydraulic glue press for hot veneering. Der.prom. 5 no.8:20 Ag '56.
(MLRA 9:10)

1.Proyektno-konstruktorskoye byuro Rospromsoвета.
(Veneers and veneering) (Hydraulic presses) (Gluing)

LYUBIMOV, K.; ORLOV, B.

Introducing leading technology. Prom. keep. no. 8:22 Ag '56.
(Bryansk Province--Furniture industry) (MLRA 9:10)

ABRAMOV, V. inzhener; LYUBIMOV, K., inzhener.

Mechanization of clothespin production. Prom.koop.no.11:37 N '56.
(MLRA 9:12)

1. Proyektno-konstruktorskoye byuro Rospromsoveta.
(Clothespins)

1. LYUBIMOV
KOROL', D., inzhener; LYUBIMOV, K., inzhener.

Decorative veneer for furniture. Prom.koop. no.5:17 My '57.
(MLBA 10:8)

1.Proyektno-konstruktorskoye byuro Rospromsoвета.
(Veneers and veneering)

KOROL', D.L., inzhener; LYUBIMOV, K.N., inzhener

Preparing the cutting tool for curl veneers. Der. prom. 6 no.3:
20-21 Mr '57. (MLRA 10:5)

1. Proyektno-konstruktorskoye byuro Rospromsoвета.
(Woodworking machinery) (Veneers and veneering)

LYUBIMOV, K.N.; ORLOV, B.M.; AVSHAROV, G.A.

Drafting boards from panels with chip filling. Der. prom. 13
no.6:22 Je '64. (MIFA 17:6)

1. Proyektno-konstruktorskoye byuro Glavnogo upravleniya
bytovogo obsluzhivaniya naseleniya pri Sovete Ministrov RSFSR.

22(1)

SOV/47-59-3-45/53

AUTHOR: Lyubimov K.V. (*Leningrad*)

TITLE: On Function Graphs in Physics Textbooks

PERIODICAL: Fizika v shkole, 1959, Nr 3, pp 102-104 (USSR)

ABSTRACT: This is a review of the Soviet textbook A.V. Peryshkin i V.V. Krauklis, Kurs fiziki, ch.I, 1957; A.V. Peryshkin, Kurs fiziki, ch.II i III, 1957 (A.V. Peryshkin and V.V. Krauklis, Course in Physics, part I, 1957; A.V. Peryshkin, Course of Physics, part II and III, 1957), as far as the representation of function graphs is concerned. The author shows the inadequateness and shortcomings of many graphs contained in the textbook.

Card 1/1

LYUBIMOV K. V.

USSR/Nuclear Physics - Electron magnetic mirrors

Card 1/1 Pub. 43 - 11/11

Authors : Kel'man, V. M., and Lyubimov, K. V.

Title : Similar trajectories of charged particles in magnetic fields

Periodical : Izv. AN SSSR. Ser. fiz. 18/1, 155-160, Jan-Feb 1954

Abstract : Two simple types of electron magnetic mirrors were investigated to determine their suitability in studying the trajectory variations of charged particles in magnetic fields. The magnetic fields of these mirrors were determined by the vector potentials representing homogeneous functions of coordinates with two and three degrees of homogeneity. The form of the trajectory of a charged particle moving in a magnetic field changes during change in the velocity of the particle and depends also upon the intensity of the magnetic field. Three references: 2-USSR and 1-USA (1933-1944). Graphs; drawings.

Institution : Academy of Sciences USSR, Physico-Technical Institute

Submitted : December 15, 1953

LYUBIMOV, K.V.

Governmental standards in electric engineering and physics. Politekh.
obuch. no.10:35-37 0 '57. (MLBA 10:9)
(Technical education)

LYUBIMOV, K.V.

The use of standard symbols for electric circuits in the teaching
of electric engineering. Politekh. obuch. no.3:47-50 Nr '58.
(Electric engineering--Study and teaching) (MIRA 11:2)

AUTHORS: Kvashtonkin, I.A., and Lyubimov, E.V. Leningrad

TITLE: Markings in Radio-Engineering Diagrams (Oboznacheniya v radiotekhnicheskikh skhemakh)

PERIODICAL: Fizika v shkole, 1988, Nr 6, pp 77 - 78

ABSTRACT: A table of 14 conventional designations for parts of radio-engineering diagrams which are encountered when in a school course in physics and electro-engineering is given.

1. Physics--Study and teaching

Card 1/1

LYUBIMOV, L. A.

"

L. A. LYUBIMOV: "Electromagnetic fields in slow periodic structures."
Scientific Session Devoted to "Radio Day", May, 1961, Transm. Radiotekhnika, Moscow,
9 Sep. 61

A method is analyzed for the exact calculation of electrical and magnetic field in retarding systems of the unilateral and cross slot types. Solutions are obtained as series of harmonic functions in regions in which the period of the structure is divided. The calculation of the series coefficient is reduced to the solution of a system of linear homogeneous equations whose quantity is determined by the expressed quantity of terms of the series in the solution. Pictures of the field configuration are presented for systems of the cross slot type for frequencies corresponding to the edges and middle of the passbands. Regions are analyzed in which circularly polarized fields can be obtained and the conditions for obtaining them. The feasibility is discussed of obtaining the highest effects in periodic structures by using for ites and results of an experimental confirmation are presented.

SOV/140-2 1 19/19

AUTHOR: Lyubimov, L.A., Docent

TITLE: Professor A.M. Kugushev's Sixtieth Birthday Anniversary

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy Radiotekhnika,
1959, Vol 2, Nr 5, p 640 (USSR)

ABSTRACT: Professor, Doctor of Technical Sciences Aleksandr
Mikhailovich Kugushev was born on June 19, 1898. He
began work at the Nizhegorodskaya Radiolaboratoriya
imeni V.I. Lenina (Nizhny Novgorod Radio Laboratory im.
V.I. Lenin) in 1924, working on low-power radio tele-
phone transmitters, high-capacity power sources and on
a high-power radio telephone station in Moscow, the
radio station imeni Komintern. Under the supervision
of M.A. Bonch-Bruyevich, A.M. Kugushev started a series
of investigations of high-power ultrashort-wave trans-
mitters. He continued these investigations in Lenin-
grad and later on in Moscow. As a result of these studies

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SCV/142-2-5-12/12

Professor A.M. Kugushev's Sixtieth Birthday Anniversary

he explained for the first time the influence of reaction elements on the work of shf oscillators and obtained high-power shf oscillations by demountable tubes. The results were used for h-f hardening and in radar engineering. During the 40 years of his scientific activity, Professor Kugushev wrote about 100 scientific papers, the majority of them dealt with shf engineering. Professor Kugushev is the head of the Laboratoriya perelayushchikh ustroystv (Transmitter Laboratory), the Nauchno-issledovatel'skiy institut radiotekhniki (Scientific Research Institute of Radio Engineering) and the Kafedra radiotekhniki (Department of Radio Engineering) of the Moskovskoye vyssheye tekhnicheskoye uchilishche imeni Baumana (Moscow Technical College imeni Bauman). He is also the Chairman of the Moskovskoye oblastnoye pravleniye VNTORiE imeni A.S. Popova (Moskovskaya Oblast' Directorate of VNTORiE imeni A.S. Popov). Chairman of one of

Card 2/3

SCV/142.2 8-10/17

Professor A.M. Kugushov's Sixtieth Birthday Anniversary

the sections of the Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy All Union Society for the Dissemination of Political and Scientific councils. For his merits Professor Kugushev was awarded a number of orders and medals. Ther is 1 photo graph. ✓

Card 3/3

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S/109/61/006/011/009/021

D201/D304

9.1300

AUTHORS: Lyubimov, L.A., Veselov, G.I., and Bey, N.A.

TITLE: A dielectric waveguide with elliptic cross-section

PERIODICAL: Radiofizika i elektronika, v. 6, no. 11, 1961
1871 - 1893

TEXT: Expressions for the field components outside and inside of the guide are written as infinite series of Mathieu functions. Boundary conditions are formulated and converted into functional identities, so that several equations for the expansion coefficients are obtained. These are simplified by taking only two functions in each sum, the higher harmonics being very small. The approximate dispersion equation is deduced from the former and simplified by neglecting terms of the second order (whose value is about 1 % of the principal terms) and so transformed as to be suitable for numerical calculation. Since no tables or graphs were available for radial Mathieu functions contained in the equations, their values were specially determined. Graphs of dispersion characteristics for the electric field polarized along the major axis

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A dielectric waveguide with ...

(odd wave) and perpendicularly to it (even wave) are given for $c/a = 0.048$ (c = focal distance, a = major axis of the cross-section). Critical conditions for higher mode waves are also given without deductions, and some numerical values of coefficients are mentioned. There are 3 figures, and 8 references: 5 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: L.J. Chu, Electromagnetic waves in elliptic hollow pipes of metal. J. Appl. Phys., 1938, 9, 9, 583; L.J. Chu, J.A. Stratton, Elliptic and spheroidal wave functions, J. Math. and Phys., 1941, 20, 3, 259; J.A. Stratton, P.M. Morse, L.J. Chu, R.A. Hutner, Elliptic, Cylinder and spheroidal wave functions, N.Y. 1942.

SUBMITTED: March 25, 1961

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